

THE
Gleaner

JANUARY, 1965





HENRY SCHMIEDER

Mr. Henry Schmieder died on June 12, 1964. He was born on July 22, 1892, and became a member of the staff of the National Farm School in March 1921. He was Professor of Biology and Director of the College Arboretum at the time of his death.

The Gleaner

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Our Cover

Being able to put into practice what is learned from a textbook is one of the many opportunities provided by the Kehr Orchid Houses. Richard Glaser '65 is pictured applying pollinating techniques learned in the study of Plant Breeding. (See article "The Kehr Orchid Collection".)

Segal Hall—1906

WILLIAM F. STOCK '65



This picture shows the three main buildings on the campus. To the left is the original Farm School building, containing the dining room, kitchen, a class room, and dormitory accommodations for 39 boys. The small building in the centre, is Pennsylvania Hall, the gift of the State of Pennsylvania to the School, accommodating 20 pupils and a governor. The building to the right is Segal Hall, the gift of Mr. Adolph Segal, of Philadelphia, containing a library, assembly hall, and dormitory accommodations for 21 students.

The turn of the century found the National Farm School facing a problem of expansion and growth with limited facilities.

Dr. Krauskopf, in his message in the annual report of 1904, pointed out the need for a new student dormitory, a study hall, a recreation room for the students, and better lavatory facilities.

The following year Adolph Segal, of Philadelphia, generously donated enough money for a new building to be constructed to Dr. Krauskopf's specifications. Dr. Krauskopf gratefully acknowledged the gift in the annual report of 1905, but also added that the new dormitory would naturally increase the annual running expense of the school. Therefore, Dr. Krauskopf said, he could not accept the gift until sufficient operating funds of approximately \$50,000 were made available.

Again through the generosity of many friends of the school enough money was raised by 1906 to permit plans for the new building to be drawn.

The construction of the building was carefully considered so that the cost of its maintenance could be kept to a minimum. On a foundation of granite, partly exposed above the ground, yellowish gray pressed bricks were used for the walls, and trimmed with buff colonial Indiana limestone.

A large 25x30 foot recreation room occupied most of the first floor. In it were six large arched windows and a large fireplace. Situated at one end were a half dozen shower-baths and a lavatory. The remainder of the first floor contained an office, and a library with 3,000 volumes with special reference to agriculture.

The second floor was mostly a dormitory, arranged in cubicles, each with a window, sufficient to accommodate twenty-one students. On the second floor there were also a good sized master's room, a storage closet, and toilet facilities.

In the basement there was a power plant that supplied the building with steam heat, electric light, plus power for the laundry.

In a wing added to the main building, a laundry was installed for the use of the students. The laundry, equipped with the latest and best machinery, had a capacity designed to meet growing needs of the school.

Segal Hall was dedicated on June 15, 1906, ten years after the Farm School was founded. The ceremony, attended by many friends of the school, brought great personal satisfaction to Dr. Krauskopf because it marked another step in the fulfillment of his dream for the school.

Segal Hall was remodeled in 1923 to provide additional dormitory and classroom space and an up-to-date chemistry laboratory.

Since then, other changes have been made in the space it provides to satisfy the needs of a growing institution. The fact that it has been possible to adapt Segal Hall to changing needs is a tribute to the practical foresight of those who drew its plans.



PANAMA

CLINTON R. BLACKMON
Associate Professor of Plant Sciences.

Dr. Blackmon taught at the National Agricultural College from 1945-55. He then taught and conducted research at the University of Maine until he accepted a University of Kentucky appointment in 1962. Dr. Blackmon returned to Delaware Valley College in the fall of 1964 and now teaches a wide range of subjects in the Plant Sciences.

Early in the summer of 1962 I accepted an appointment with the University of Tennessee to work as a professor and advisor at the University of Panama under the United States Agency of International Development (USAID) program. I left for Panama together with my wife, five children, fourteen suitcases, and various assorted hand luggage. Our other possessions were shipped by air and water, and eventually reached us, although the air freight was lost for about two months.

We flew by jet directly over Cuba and reached Panama City only to learn that the University was closed. Some communists and other radical students had revolted, set up a machine gun on a hill in the middle of the campus, and refused to permit faculty members to enter. They demanded a reduction in student fees from something near \$30 per semester to nothing, and also equal representation with the faculty at faculty meetings. Finally the National Guard came in and closed the University to the students until a compromise was worked out and classes resumed.

The University of Tennessee Team was composed of seven members, four in Public Administration and three in Agriculture. Our task was to organize in these fields, secure the best teaching materials and laboratory equipment, plan the curricula, develop the highest academic standards, and help these fields of endeavor. My duties were to develop the plant science curriculum, organize a research program, and to teach. With the help of other agricultural workers and the Panamanian professors I compiled a list and secured more than a thousand essential reference books in English and Spanish. Fortunately, the students were required to read both languages and could utilize the wealth of English and American books available.

Our "Experimental Station" was nothing more than a few old sheds and a thousand hectares of land composed of swamp and brush-covered hills from which over 200 "squatters" were removed. These squatters were poor people who trespass on the land until they build shacks, after which the law protects them from eviction by giving them certain rights. After the national government had given this land to the University, one very enterprising squatter was found operating a 200-animal herd and renting land to a number of other families. Working with borrowed bulldozers, we cleared a section of land for our experimental plots of rice, corn, tomatoes, soybeans, and forage crops. During their senior years all students in agriculture conduct research on some of these plots for their theses. A thesis was required for the "Ingeniero Agronomo" degree which is equivalent to our bachelor of science degree.

In the two seasons we were there we equipped the research farm with farm equipment representing all

levels of advancement from hand plows and oxen to land levelers, combines, and grain dryers. In brief, we ditched the flat land, cleared most of the brush, started a modern beef herd, built a barn, started developing a forest area, and secured research results on rice, corn, soybeans, sesame, and tomatoes, relative to better varieties, herbicides, fertilizer response, and management techniques.

My teaching duties were difficult because of the lack of up-to-date agricultural textbooks in Spanish applicable to the tropics. For the course in plant pathology I found it necessary to write a textbook which the University printed for me. Scientific information had to be translated and related to the ecology and economy and practices of agriculture in the Republic of Panama. Fortunately, I was able to travel widely and study agriculture throughout the country. We had a school bus available twenty-four hours a day for making field trips and we used it to visit the Experimental Station Farm and to travel to the interior, the mountains, the citrus plantations, the vast banana enterprise of the United Fruit Company, and even to visit Costa Rica. Fortunately, the Panamanian students were very cooperative and most interested in gaining all the knowledge they could from their American professors. They were much more active in class discussion than their counterparts in the United States. Because of the student interest and response I thoroughly enjoyed my teaching and the field trips.

We started a herbarium of the grasses and other wild plant species of Panama, including at least two new species of plants. In making these collections I travelled with the taxonomist, Dr. Dwyer of St. Louis University, to the ends of the country — even to the heart of the Darien jungles, the only area that the Pan American highway has not yet penetrated. We reached that area through the courtesy of the U. S. Navy, and Colombian smugglers. This area was a virtual collectors' paradise, abounding in frequently-blooming trees, rare species of ornamentals, wild potatoes, and jaguars, snakes, and leaf-carrying ants. Some of the area had not been tramped upon since the days of Balboa and the Spanish Conquistadores.

During 1963, we proudly graduated our first class of students in agriculture at the University of Panama and immediately placed them in excellent government and commercial positions. In May we started developing the forage, grain, and citrus research programs. The research work was financed from the profits of the rice production.

Unfortunately the January riots led to the cancellation of this entire program. There were ample warnings of impending trouble. Increasing numbers of communists trained in Cuba were returning, mobs had prevented the completion of dedication ceremonies for the

\$25 million dollar bridge built in appeasement for previous riots. The Panamanian National Guard was confiscating communist textbooks given to the schools by the Minister of Education. Even some of the American women had been stopped by groups of civilians and subjected to search. All these things were duly reported to the American Ambassador.

On the morning of January 9, 1964, I was told by our students at the University of Panama that a student demonstration by agitators had been planned for that night along the boundary with the Canal Zone. They told me that the communists and other radicals wanted to protest the flying of the American flag anywhere in the Canal Zone. At about 5:30 p.m. my son, Daniel, who was president of the Balboa Student Association, received a phone call from the Balboa High School informing him that a large group of Panamanians were opposite the high school building. We drove over to the school and helped keep the American students separated from the Panamanians as the latter put on their demonstration.

On the way home from the Canal Zone we met a mob tearing up an American flag, and further on, we saw an American soldier hanging in effigy. We reached home, told my wife of the situation, and I started back for the Canal Zone where I planned to leave Dan with friends for the night. As we reached the boundary we passed a mob of over 3000 people confronting two American policemen. The mob invaded the Canal Zone, set fire

to the laundry, and began to run riot around the Canal Zone buildings near the boundary. The United States Army was finally called out and succeeded in getting the rioters stopped and moved back from the private homes and hospital area. We returned to our home in the heart of Panama City by a back route, reaching home just before midnight, to find my wife worried. Throughout the night we listened to the Panamanian radio stations broadcast calls for all the Panamanian people to rise up and fight the American people. Complete control of all the radios and other news media were exercised by the rioters. Rifle fire echoed throughout the night. The next day, after the burning of a large number of American-owned automobiles in the next block I put my family over the back fence into the safety of the Bolivian Embassy. Finally on the third day we were evacuated to the Canal Zone by the Panamanian National Guard.

In the Canal Zone we joined a group of over 3000 American evacuees under severely overcrowded conditions. Our family of seven was at one time assigned to a single bachelor room in the immigration center. In desperation we finally managed to secure a bullet-riddled room in the Tivoli, the focal point of much of the previous rioting. Later we were sent back into Panama City, but under the unsettled conditions we were brought out again. We were eventually ordered home without being permitted by the U. S. State Department to return to the University of Panama.

The Military Obligation

—or—

So You Have A Problem

WILLIAM W. BLOOD
Captain, USAF, Retired

The Military Obligation is a blunt fact of male citizenship today. It is a fiercely personal problem for each qualified man, to be resolved intelligently by careful consideration of certain options and programs as they relate to his own particular set of circumstances.

Let me remind you of the options. They are briefly: enlistment in either a reserve or national guard unit; participation in the ROTC Program, which leads to a reserve or regular commission; and, of course, The Draft. I have never been drafted, having had the remarkable foresight to avoid it by enlisting in the Army in 1925. But those who have survived the experience tell me to a man that it is enormously unrewarding, and that it leaves gaping wounds in the *libido* and *id*.

In addition to the familiar options, special training programs leading to reserve commissions are offered to college graduates by each of the services. These vary with each service, and change frequently. Details of such programs are available at recruiting stations. The young male citizens scout these options and golden opportunities carefully, for each has inherent advantages and disadvantages.

I refuse to offer unsolicited advice in this matter. If I were asked for an opinion, however, I would state as a cardinal principle that the college student should entertain no serious thought of entering into his obligated service before completing his degree require-

ments. The Armed Forces place emphasis on higher education. Your degree will vastly broaden the scope of your opportunities in any of the Services.

Whether or not the provisions of the Selective Service Act are morally justified, they are necessitated by our requirement for a massive armed force. The Draft, through coercion of a sort, provides an adequate number of volunteers for the Navy, Marines, and the Air Force. The Army, larger and less glamorous than its sister services, must look directly to Selective Service for much of its manpower. Even small standing armies cannot be maintained at authorized strength without some form of conscription, as we learned before World War II. It seems logical to suppose that the Military Obligation shall continue to plague young men for some time to come.

The attitude of each individual towards his Military Obligation is vitally important. He who has developed a negative approach to his program, fearing and resenting this ruthless intrusion of Government into his life, predisposes himself to loathe the Services. He will, as surely as *Taps* follows *First Call*, be unhappy in his tour of duty. He will forever swear that he has been robbed of two precious years. If, on the other hand, our young man faces his obligation with an open mind and a desire to broaden his horizons, he will find his tour of duty rich in opportunities and rewards.

The Kehr Orchid Collection

RICHARD GLASER '65

The Kehr Orchid Collection which now stands on the campus was donated to the college early in 1963 by Mr. and Mrs. Abraham B. Kehr. The Kehrs lived in Abington, Pa., and had close associations with the founder of the National Farm School, Dr. Joseph Krauskopf. Mr. Kehr was very interested in the study of the growth, propagation, and hybridization of orchids. He started his collection with one small greenhouse and gradually increased the size and quality of the collection by procuring rare and unusual specimens from all over the world. In time, because of ill health, he found it impossible to maintain the collection and was forced to part with it. Mr. Kehr donated it to Delaware Valley, secure in the knowledge that the collection would receive the same meticulous attention he had always given it.

The Kehr Collection is quite extensive and includes 1476 plants, exclusive of seedlings. There are 116 Botanicals (wild species), 568 Cattleyas, 429 Cymbidiuns, 309 Cypridiums, and 54 Phalaenopsis. The approximate value of the plants, not including the structures and equipment, is estimated to be far in excess of \$30,000. There are many breeding specimens in the collection that have been given high awards by both the American Orchid Society and the Royal Horticultural Society of England. The specimen *Cymbidium Alexanderi* variety *Westonbirt*, for example, has been awarded a First Class Certificate by the Royal Horticultural Society and is known all over the world. Among the more unusual plants in the collection are two "Black" Orchids. Although true black orchids are non-existent, these two varieties have lips of a very dark tone of green and appear to be black. One of these plants was brought from Borneo, and the other is a native of the Florida Everglades.

For the past ten consecutive years the collection has been entered in the Philadelphia Flower Show and has consistently won recognition. Since the Flower Show in Philadelphia will not be held in 1965, the Kehr Collection will not be shown publicly. However, the collection will be exhibited at the next scheduled Flower Show.

The greenhouses themselves are of very modern design. Two are wooden structures capped with aluminum; the other is all-aluminum construction. The three houses are equipped with numerous automatic devices. Automatic misting, humidification, and zoned heating enable the three houses to maintain three separate and inde-



Cattleya Abe Kehr variety Pebble Hill

pendent environments. Ventilation is thermostatically controlled and mechanically operated by an electric motor mounted inside the greenhouse. The concentration of fertilizer is regulated at almost every watering with the use of an automatic fertilizer injection unit. All of this elaborate equipment is necessary for the proper care of orchids. The environment to which they are native must be closely approximated. The plants need high humidity and a warm temperature as a rule but these conditions vary considerably with the species and the variety. Since the medium in which orchids are grown possess practically no nutrient value, the plants must be fertilized often and consistently. The temperature must be constant. This is why the greenhouses are equipped with automatic vents and two auxiliary methods of heating the houses in case of a power failure.

The collection is available to the student for supervised educational and research programs. Growth, sexual and asexual propagation, as well as hybridization and photoperiodism are among the areas open to an inquiring mind. The collection is also an invaluable asset to members of the floral design class who use the flowers in their work.

The College has much for which to thank the late Mr. Kehr. His contribution has provided a modern laboratory in which to experiment and observe a most beautiful and unusual form of plant life. From this comes further education and continued progress.



Cattleya General Patton

Cypripedium Rosy Dawn

Cymbidium Joan of Arc variety Purity

Phalaenopsis Elinor Shaffer variety Pebble Hill

The Day He Came In Last

Wednesday, December 9, 1964, marks a high point in the collegiate life of Louis F. Coppens as well as the relatively brief annals of D.V.C.'s cross country activities.

It was "Lou Coppens' Day" on the campus — a day of recognition for the unusual record which the shy, unassuming 5'7", 132-pound senior steadily, but surely, built. A regularly scheduled student Assembly was announced for the day — without the usual specifics. Word was passed, however, that the occasion was to honor Coppens and that it would culminate in the presentation, to him, of a silver bowl by the students as a token of their appreciation of his feat, and the pride they felt.

Dean Meyer was to introduce the speakers as he normally did. This time, however, there were quite a few: Mr. James Gallagher, Director of Athletics at Central Bucks High School which Coppens had attended for four years; Dave Scovell '66, teammate and captain-elect of the 1965 cross country team; Pete Gerity, President of the Senior Class; Dr. Work; James Harteis '65, President of Student Government, who presented the silver bowl in the name of the students; and Ned A. Linta, Director of Athletics and cross country coach.

With a well-filled gymnasium, and every one in place feeling that Coppens would appear momentarily, the speakers began. After several had spoken, the feeling was, "Where's Coppens — or would he appear at an appropriate moment as planned by those in charge?"

Coppens did make his entrance—totally unscheduled—and fifteen minutes late! He was later reminded by Dr. Work that this was, indeed, an occasion on which, when he was being honored for his many firsts, he came in last.

The audience, with its expectation more than satisfied, settled back. The speakers, filled with words of praise for an absentee recipient, relaxed, and paid enthusiastic tribute to Coppens, capped by the presentation of the Revere silver bowl.

The Assembly climaxed a series of awards to Coppens. At the Annual Fall Sports Awards Banquet, December 23, Coppens was one of two men selected as recipients of the Outstanding Cross Country Award. On the same occasion he received the Delaware Valley Conference trophy award as the Conference Champion.

On November 23, Coppens ran the NCAA University Division Cross Country Championship four-mile course at East Lansing, Michigan—snow covered, in 36° weather with a 17-mile an hour wind blowing. He had qualified for this championship event a week earlier in Wheaton, Ill., where he had placed ninth in the NCAA College Division — well within the first fifteen-place limit for an invitation to compete in the University Division.

In the University Division event, Coppens established two positions. First, in competition against the group of men who had won the other fourteen places in the College Division in which he had been ninth, he now finished first. Second, as a competitor in the larger University Division group of 180, Coppens finished 41, again within the limits of a meritorious performance, in this case finishing within the first 50 places.

In a non-collegiate event several weeks prior to the NCAA meets, Coppens won first place in the annual Atlantic City Marathon. He covered the 26-mile course in 2 hours, 33 minutes, and 15 seconds.



LOUIS F. COPPENS . . . in response to all the plaudits, ". . . in the years to come, of all my many awards, this will mean the most to me."

Coppens' collegiate performance shows he achieved 42 first in 47 meets (3 seconds, 1 third); broke his Delaware Valley College course record six times; and set course records at Glassboro, Millersville, Susquehanna, Eastern Baptist, Lebanon Valley, Lincoln, and Washington. His record for each of his four years was as follows:

Freshman Year: (1961) 4 first, 3 seconds, 1 third
Sophomore Year: (1962) 10 firsts in 11 meets

Records Set 1962:

10/10/62—Set Delaware Valley College course record of 23:23 (4.6 miles) against Eastern Baptist College.

10/19/62—Broke his Delaware Valley College course record with 23:07 against Albright College.

10/25/62—Broke Millersville's course record of 28:05 with 26:44 for the 5 mile course.

11/7/62—Broke Glassboro's course record of 21:09 with 20:26 for the 4.1 mile course.

Junior Year: (1963) 15 firsts in 15 meets

Records Set 1963:

10/3/63—Broke his Delaware Valley College course record with 22:56 against Lincoln University.

10/12/62—Broke his Delaware Valley College course record with 22:50 against Eastern Baptist College and Philadelphia Textile.

10/29/63—Broke Susquehanna's course record of 23:51 with 22:25 for the 4.2 mile course.

11/4/63—Broke his Delaware Valley College Course Record with 22:27 in the Delaware Valley Conference (First Delaware Valley Conference Champion).

Senior Year: (1964) 13 firsts for 13 meets (including the Delaware Valley Conference championships)

Records Set 1964:

10/7/64—Broke Lebanon Valley's course record of 23:37 with 22:40 for the 4 mile course.

10/15/64—Broke Eastern Baptist's course record of 26:48 with 23:37 for the 4.4 mile course.

10/24/64—Broke Lincoln's course record of 25:26 with 24:28 for the 5.2 mile course.

11/6/64—Broke Washington's course record of 21:57 with 20:34 for the 4.2 mile course.

11/7/64—Broke his Delaware Valley College course record with 22:11 against Susquehanna.

11/10/64—Broke his Lincoln record with 24:06 to become the Delaware Valley Conference Champion for the second consecutive year.



The new dormitory—the artist's promise come true

Groundbreaking Homecoming Day 1963.
Douglas Gilmour, Architect, Dr. Work, Martin Brooks '54.

Cornerstone laying "A" Day, May 2, 1964.



Morris Goldman
Chairman of the Board

... HAPPY TO ANNOUNCE . . . TO A VERY HAPPY MAN
James Work, President of the College

"We are assembled today to lay the cornerstone of what will be Delaware Valley College's largest and most beautiful dormitory building. This is another milestone in the work and progress of our institution and in its service to the youth of our nation. The success or failure of an educational institution may be traced to the administration which is responsible for carrying out its policies, and for Manning it with a capable faculty. Delaware Valley College has been most fortunate in having had at its helm since before it became accredited as a senior college, a man who, in his devotion, dedicated application and ability, is surpassed by none and equalled by an unknown few. I speak of none other than Dr. James Work, whose love for the school dates back to the days when Dr. Joseph Krauskopf as the head of the school inspired its students, one of whom was James Work, just as Dr. Work inspires the students today.

"It is therefore only fitting and proper that the college home of the students should be dedicated in the name of Dr. James Work, so that in the generations to come the students and everyone connected with the college may be reminded of the good work performed by Dr. Work and may be inspired by his name.

"For this reason, to honor the college and Dr. Work, I have the extreme pleasure in the name of the Board of Trustees to give to this beautiful building the name "James Work Hall . . ."

The Changing Campus—1964

JAMES WORK HALL Dedicated November 8, 1964

Left to right: Morris Goldman, Chairman of the Board of Trustees; Dr. Work; Louis Silverstein, Trustee; David Levin, Trustee and Treasurer; David E. Washko '67; Samuel J. Huffman '66; Gary Brubaker '67, all members of student Government.



CENTRAL INTELLIGENCE AGENCY

RAYMOND J. CSEPI '65

Intelligence as a source of information to serve national interests has traditionally been a highly controversial subject particularly with reference to its use by governmental agencies. This has tended to be true in recent years. Drawn into the circle of criticism is the United States Central Intelligence Agency. Due to the great secrecy involved, there is undoubtedly more controversy and less knowledge available about this organization than any other governmental agency.

The questioning of whether the C.I.A. is of major benefit to citizens of the U.S. has been a highly debated issue. This problem is an important one and commands investigation due to the very nature of the American political system. As Americans, we like to think of our government as a group of representatives chosen by the people, and wielding power placed in their hands by the same people who choose them.

The C.I.A., however, is a government agency supported by our tax dollars. We don't know for sure how much of our money is being appropriated for its maintenance or exactly how this money is being used. We hear rumors of blunders by this agency in reference to important matters of international interest. This should be enough to provoke the taxpayer into learning more about the C.I.A. in an effort to check up on one highly controversial usage of his tax dollars if nothing else.

The Central Intelligence Agency is a secret agency established within the government for the purpose of gathering information about the activities and plans of other governments with respect to the United States.

The C.I.A. supplies the President and the National Security Council with vital information needed in the effective formation of both domestic and foreign policies. It is not an organization working apart from the rest of the government. Since it does not separately formulate its own policies, consultation with the State Department,

Department of Defense, and the President is considered standard procedure prior to carrying out a course of action.

We know that the Central Intelligence Agency not only supplies information to the President and the National Defense Council with which it is associated, but also evaluates it. It may become involved in various activities, such as propaganda distributions, guerilla warfare, and aerial surveillance.

The achievements of the C.I.A. have been numerous but due to the secrecy surrounding them, the average citizen has not had an opportunity to become informed. The following are examples of known C.I.A. operations. In June, 1954 an underground telephone wire was discovered extending some three hundred feet along an accessible portion of Berlin. Much important information was obtained by tapping the line and listening to Russian conversations. A coat hanger, recently smuggled out of Russia, was made of scraps of metal used in the wing construction of a new Soviet long-range bomber. By analyzing this metal, scientists were able to estimate the bomber's payload capacity and flying range. The well publicized U-2 flights provided a wealth of information before their operation over Russia was ended. Agents obtained an apparently closely-guarded speech by Khrushchev to the Communist Party Congress denouncing Stalin.

After the Bay of Pigs crisis, Alan Dulles and his staff retired from active direction of the Central Intelligence Agency. John A. McCone now is head of an efficient and strong agency which may be vital to the National defense of the United States as it strives to guard the welfare of Americans by combating activities detrimental to our democratic way of life.

Intelligence represents power and power is our most emphatic means of maintaining and preserving a way of life that best suits our purpose.

GLEANER LITERARY CONTEST

Since the rules for the literary contest were released, we have become aware of the need for certain minor revisions. The time for awarding the prizes in various classes has been changed from after the publication of the second GLEANER to after the third issue. All material must be submitted not later than March 1, 1965. Entries may be submitted to one of the following members of the GLEANER staff: Thomas R. Hawk, Publisher, Work 219; Marvin Olinsky, Managing Editor, (Off-campus); or Jonathan H. Greene, Elson 21.

The change in time for announcing the awards was made to facilitate the inclusion of the entire year's contributions. All contributions, published or unpublished, will be presented for judging.

The judges, who will be named in the second issue of the GLEANER, will include members of the faculty as well as members of the literary profession from outside the College.

The contest is open to all students, including those in the evening division. We encourage participation by all.

Other contest rules, previously announced, are as follows: Cash awards will total \$180.00 for entries in the areas of 1. Fiction; 2. Poetry; 3. Personal experience; and 4. Technical and Scientific work. Awards in each class, based on the opinion of the judges, will be: First, \$20.00; Second, \$15.00; Third, \$10.00.

Length of entry should be appropriate to the subject and class.

It is not necessary that an entry be written specifically for the GLEANER contest. Material written for another purpose is acceptable. If such material is submitted all that is required is a signed statement as to whether it is based on a course assignment, and who made the assignment; if the entry was written expressly for the contest; or for a purpose not specified above.

If assistance was received, a further statement should indicate the nature and extent of the assistance, as well as the name (s) of the person (s) giving the assistance.

The Ceaseless Wanderer

RICHARD KOES '66

There are a few of us just born that way. Always wanting to go somewhere, never taking the same road back. Restless, like the wayward wind, never tarrying long in one place.

The kid was that way. As a boy, and probably like all boys born in the coalfields of Pennsylvania, he dreamed of being a cowboy, sitting astride the biggest and fastest horse in the west, with a "Colt 45" hanging low on his hip; or, a jet pilot, speeding faster than sound, half-lost in the never-ending sea of space.

It was hard to do any more than dream about such things in the coalfields, but there were valleys and hills and wooded mountains to roam, and always, always the river with the Indian name, called the most beautiful in the English language, Susquehanna.

He had a never-ending love of guns. When he was five he received an air rifle as a gift. He never knew what kind it was but he never forgot its shining barrel and the way it felt in his hand. Other guns followed the air rifle. A .22 at seven, a 16 gauge shotgun a few years later, a high-powered 30 caliber rifle and several others before he finished high school. It felt odd to leave them behind when he left for the Army. He was eighteen then, still a kid with a yen for adventure.

If he wanted changes, Kentucky had them: unbelievably cold in the winter, nothing but mud and the thick, heavy smell of burning soft coal in the spring. There were long marches with a pack, half his own weight, strapped to his back; and the Saturday nights in Louisville and weekends in Columbus. Anxious days were spent on the firing range with a semi-automatic M1, serial number 6339184. Its stock weighed as much as a Christmas turkey, and half the grooves were missing from the barrel. It was cruel looking, ugly as sin, and just as deadly. At 300 yards the first shot knocked down the target; it never threw a wild shot in all the months he used it.

Colorado was even stranger. Majestic mountains rose to frightening heights, with white caps and long green

skirts of pine and fir and deep canyons with a suggestion of the unknown in them.

He had a short stay in California. As he left, surrounded by the unfamiliar noise of the troop transport plane, he thought of all the places he had seen; he smiled and was happy. He did not know where he was going now, it did not matter, just to be moving was enough.

He had not realized there was so much water in the Pacific. It took eight hours to cross. Eight hours braced against the roll and pitch of the giant aircraft, while the propellers chewed endlessly at the invisible mixture of gasses called air.

Japan was as he expected. Odd shaped, tiled roofs perched on white-walled sturdy looking houses, while the people spoke a strange sounding language, different from the French and Latin of his high school years.

Soon they crossed the Sea of Japan. He did not like Korea much; Japan was better. He often went through a chow line several times to give the extra servings to kids who hung around despite the snow and wind and their ragged shoes.

Days passed, and months. He saw a lot of new country, but he didn't appreciate it. He just studied it — for slope, cover, and movement. When not studying the terrain, his eyes turned upwards to watch for stray fighter planes. The sky was a pale gray, so pale it was almost colorless. It reminded him of the sky he had seen over the Susquehanna on an early morning duck hunt many years before.

Deer season in Pennsylvania. A letter said his father wasn't hunting, and wouldn't until he was there to go along. He was thinking of that when the bugles sounded again and the quilted hordes came over the ridge, their rifles blinking orange, tufts of dirty snow lifting upwards all around him.

He felt no pain, but the force of the bullet drove him back against the wall of the trench.

He would wonder far again. Further than his fondest dreams, to those unknown places where no one travels until he has bidden farewell to mother earth forever.

EDITORIAL

In a continuing effort at self-improvement The GLEANER is offering to D.V.C. students a chance to show their interest in and support for the GLEANER, and at the same time make some money. As we have said before, we feel that in their regular courses they write many papers of excellent quality which would be of interest to the entire student body. We hope that by means of cash incentives we can obtain these papers and prove two points; (1) that an article need not be written for the GLEANER in order to be published and enjoyed by other students, and (2) that the average stu-

dent can and does write material in his four years at D.V.C. that is suitable for publications.

The GLEANER is a magazine of the entire student body, and it is our duty and responsibility to encourage as many students as possible to contribute material.

One of our problems arises from the fact that we can present to the students only that material which these same students present to us. It is for this reason that we have striven in the past, and will continue to strive, to obtain increased and whole-hearted student body support.



Peru

ADOLFO L. AMORIN '65

May I introduce Peru, my home land. I would like to tell you about Peru, not as a historian or an economist, but as a student at D. V. C. who wishes to give his fellow students a better understanding of his people's way of life, and of that Latin blood that proudly runs through his veins, carrying along memories of a glorious history and the promise that these past glories shall return.

Peruvians, like most Latin Americans, are easy-going people. I do not mean they are people without motivation toward economic success. They are ambitious but their drive for this achievement is never so great as to overshadow their spiritual or affectionate world. They are growing stronger economically, their living standards are improving, but their spiritual values remain the same, always as high as possible. Peruvian homes, rich or humble, always carry the seal of deep love and respect with them. A kiss on the forehead or the cheek

of their parents and a respectful "Goodnight" before going to sleep is a habit among Peruvian children and most adults. This affection and love among members of a family is best shown on the occasion of a farewell when they show their feelings with tremendous intensity. They are so close to each other, that whenever they have to say "Good-bye" to a loved one, they die a little. Sometimes there seems to be too much emotion among these people.

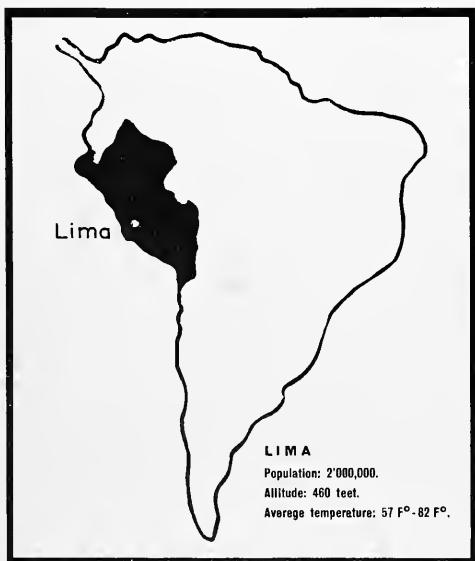
This is the emotional world and behavior pattern of Peruvians in a broad sense. These traits appears in various ways in different walks of life.

College students in Peru take their studies very seriously. They believe they are the future leaders and the backbone of the country because of their intellectual potential. They feel compelled to regard active participation in the political affairs of the nation as a duty. If they do not agree with the way in which the country is being run, they will voice their disapproval to the administration, hoping their complaints will be heard. If their concerns are ignored, they may take direct action as a means of persuading the government to think twice. If the difficulties are given attention, tensions will be relaxed, and compatibility will return. Peruvian students, in extracurricular activities, other than politics, behave much the same as students on other colleges of Western civilization.

Among the things for which Latin peoples are noted is their gaiety. This is especially true among Peruvians whose music is so full of rhythm and color. Whenever there is a party, you know it! This is especially so in small towns. The whole neighborhood usually attends because it has no choice. No one would be able to sleep anyway. At such parties, the young couples dance tirelessly and with unique grace to the rhythms of the classical "marinera," "mambo," or "Cha-cha." Every once in a while, a romantic "bolero" is played for the benefit of those in a romantic mood. Since everyone is usually in a romantic mood, there are great sighs and words of love with an occasional kiss "sneaked in." But then, a swinging "dengue" or a "guaracha" is played, bringing the couples back to earth, and so on to the crack of dawn.

A few words should be said about Peru's capital, Lima. This metropolis, like most other great cities the world over, is not an expression of the country as a whole; it does not represent the traditions and folklore of Peru. It has some unique characteristics, but they are too complex to describe briefly here. It is enough to say that it has the same huge buildings, night life, and traffic jams that most metropolitan cities have.

Cajamarca is different. My beloved Cajamarca, where I live, IS the most beautiful place I know. The saying is that after God created the world, he went to Cajamarca on the seventh day, and there, in all its beauty, He re-



laxed. True or not, Cajamarca is a wonderful and fertile valley in the heart of the Andes, entirely surrounded by natural beauty. The city itself, although rather modern, has managed to preserve the Spanish colonial architecture with its colorful patios and picturesque balconies.

Here we find the typical Peruvian girls, so innocent, so pure, so very pretty. Here, too, the traditions of Spain can still be fully appreciated. Traditions such as the "serenate" or "piropo" still persist, enhancing and adding glamor to the personality of the city.

"Serenates," by way of explanation, are usually given by young men to either their girl, or any other girl they like, and with whom they would like to establish a closer relationship. A young man and girl meet once, or many times, at a party, or some other place; he falls in love with her, and has reason to think she loves him. But, he is not quite certain. What better way than a "serenade" to find out! So, he gathers some friends, particularly those with a good voice, and who can play the guitar. Then along they go to give the "serenade" on a suitable hour on a night that is usually beautiful and clear, illuminated by millions of stars and a great big moon.

Under the girl's balcony, the sounds of a romantic melody break the silence of the night. He tells her, in his songs, of his love and devotion for her. She comes out onto the balcony and listens with a sweet and tender expression on her face. Then, after two or three songs, the crucial moment arrives. Kissing a rose he has brought with him for the occasion, he gives it to the girl. If she,

holding the rose in her hands, thanks him, says "Good Night," and walks in, there is no hope. But, if she kisses the rose, it means that she personally will return the rose to him. Down she comes to meet him just inside the door, and there, for three or four minutes they will remain together, usually shaken and confused, but with their hearts filled with the purest and tenderest of all happiness.

Another Spanish custom concerning girls that is still much alive in my home town is that of making "piropos," or paying verbal homage to pretty girls. Making "piropos" is Cajamarca's sidewalk sport. It goes like this: a girl walks down the street; a man walks down the street. The man approaches, smiles, and says to the girl, "What an architect your father was!" Or, "Girl, you are a national monument." If the girl is accompanied by her mother, the man may whisper to the mother, "Go with God and let your daughter go with me." "Piropos" are so commonplace and hilarious that they usually don't annoy anyone. A women, married or single, would simply continue on her way without any reaction to the spontaneous remark. Putting together all the little things that make up Peruvian life, such as their devotion and respect for the family; their generosity, and relative unselfishness with respect to economic success; viewing money as a secondary goal and not as a main motivation in their lives; and adding the charming expressions such as the "piropos" and "serenates," it should be clear that Peruvians do not merely exist. They *live* every minute of their lives.



The Main Square in the center of old Lima provides many reminders of Peru's history. It was in this square, adorned with a beautiful bronze fountain of the eighteenth century, that Don Jose de San Martin, in 1821, proclaimed Peru's independence. Here, also, to the left of the Cathedral, are the town hall of Lima and the house of Pizarro. The Archbishop's Palace is in the background. The remains of Pizarro, the Spanish conqueror of Peru who died in 1521, are kept in a glass coffin in the Cathedral.

A STUDY

of the effect of various media on germination and growth.

I · · · · · ·	II · · · · · ·	III · · · · · ·
IV · · · · · ·	V · · · · · ·	VI · · · · · ·
VII · · · · · ·	VIII · · · · · ·	IX · · · · · ·
X · · · · · ·	XI · · · · · ·	XII · · · · · ·

V. C. Nicholson, a horticulture major in the class of 1964, in his senior year, undertook a comparative study of six different types of media. His object was to evaluate the germinating and growth-promoting qualities of each medium. A medium promoting quick germination and rapid maturity has obvious economic advantages.

This article is a review of the salient features of Nicholson's investigation. His preparatory work, sanitary precautions, and procedural standards will not be discussed in detail. To provide an adequate and reliable sample for his study, he prepared a quantity of each medium sufficient to fill twelve (12) four-inch pots. He had, therefore, 72 "seed beds" available for observation.

The six types of media used were peat, perlite, sawdust, sand, vermiculite, and a "mixture" composed of one-sixth of each of the other media plus one-sixth part of sterilized soil. Hartman and Kester, in their book on "Plant Propagation," outline the characteristics of each of these media in the following terms.

PEAT consists of the remains of aquatic, marsh, bog, or swamp vegetation which has been preserved under water in a partially decomposed state. Composition of different peat deposits varies widely, depending upon the vegetation from which it originated, state of decomposition, mineral content, and degree of acidity.

The light brown or yellowish brown fibrous types consist of remains of moss, reeds, or sedges, and are usually quite acid in reaction. The brown to black, partially fibrous types are woody, lumpy, or granular and range from very acid to somewhat alkaline.

Surface layers and cultivated peat soils in an advanced state of decomposition in which plant remains are difficult to identify are generally termed "muck."

Baled peat moss (the type used in the experiment) as sold commercially in the United States is the brown, fibrous type. It has a very high water-holding capacity, contains some nitrogen—a little over 1%—but is low in phosphorus and potassium. When peat moss is to be used in mixtures it should be broken apart and moistened well before adding to the mixture.

PERLITE is a gray-white material of volcanic origin, mined from lava flows. The crude ore is crushed and screened, then heated in furnaces where the small amount of moisture in the particles changes to steam, exploding the particles to small, sponge-like kernels. It is very light, weighing only 6-8 lbs. per cu. ft. The high processing temperature gives a sterile product.

SAWDUST is a by-product of lumber mills. This material of fir or pine can be used in soil mixes, serving much the same purpose as peat moss except that its rate of decomposition is slower.

SAND consists of small rock grains, from about 0.05 to 2.0 mm. in diameter, formed as the result of the weathering of various rocks, its mineral composition depending upon the type of rock. Quartz sand (the type used in this experiment) is generally used for propagation purposes, consisting chiefly of a silica complex. The type used in plastering is the grade ordinarily the most satisfactory for rooting cuttings.

VERMICULITE is a micaceous mineral which expands markedly when heated. Chemically, it is a hydrated magnesium-aluminum-iron silicate. Extensive deposits in the United States are found in Montana and South Carolina. It is very light in weight (6-10 lbs. per cu. ft.), neutral in reaction, and insoluble in water, but is able to absorb large quantities of water, 3-4 gallons per cu. ft. In the crude vermiculite ore, the particles consist of very thin, separate layers which have microscopic quantities of water trapped between them. When run through furnaces at temperatures near 2000° F., the water turns to steam, popping the layers apart, forming small, porous, sponge-like pieces. Heating to almost 2000° F. gives complete sterilization. Expanded vermiculite should not be pressed or compacted in any way when wet because its desirable porous structure will be destroyed.

"MIXTURE"—the sixth medium used in this experiment—was composed of one-sixth of each of the preceding five media described plus one-sixth part of sterilized soil.

In propagation procedures, young seedlings or rooted cuttings are sometimes planted directly in the field, but frequently they are planted in soil in some type of a container, such as clay flower pots or metal cans. Loam soils alone are generally unsatisfactory for propagation for various reasons. They are often heavy, poorly aerated, and have a low moisture-holding capacity, or tend to become sticky after watering. Upon drying they may shrink rapidly, forming a hard and cracked surface. Such soils draw away from the sides of the container during drying. Water added subsequently runs down the inner sides of the container and out of the drainage holes, failing to rewet the soil mass adequately.

To provide potting mixtures of better texture, the addition of sand and some organic matter, such as peat moss or sawdust, is usually practised. In preparing these mixtures, the soil should be screened to make it uniform and to eliminate large particles. In this experiment, screen wire with one-quarter inch mesh was used. If the materials are very dry, they should be moistened slightly. This applies particularly to peat which, if once mixed when dry, will absorb moisture very slowly. In mixing, the various ingredients should be layered in a pile and turned with a shovel. Preparation of the soil mixture should preferably take place at least a day prior to use to allow the moisture to distribute itself equally throughout the mixture. The soil mixture should be just slightly moist at the time of use so that it does not crumble. On the other hand, it should not be so wet that it will form a ball when squeezed in the hand.

After each group of pots was filled with one of the media just described, the entire lot of 72 pots was arranged in a "Randomized Block Design" to minimize the effect of any variations in light, temperature, or moisture. Nicholson "randomized" his "seed beds" in the following manner. The greenhouse area in which the pots were placed for the duration of the study was divided, mechanically, into twelve sections by the use of 1" x 4" wood dividers. Each of the twelve sections, or "blocks," was identified by a Roman numeral in the following pattern:

Fig. 1

I	II	III
IV	V	VI
VII	VIII	IX
X	XI	XII

His second step was to identify each medium by an Arabic number, and to extend this marking to each pot. The six media were identified by number as follows:

- No. 1 Peat
- 2 Perlite
- 3 Sawdust
- 4 Sand
- 5 Vermiculite
- 6 "Mixture"

The next several steps to achieve random distribution required, first, the numbering of six slips of paper, 1 through 6, and placing them in a receptacle suitable for drawing. The slips were drawn one at a time. As the number on each slip was disclosed, one pot, so numbered, was placed in Block I, and so on until the six slips had been drawn and six pots had physically

been transferred to Block I. This process was repeated 12 times. At its conclusion, the pots with the various media were distributed in the following random pattern:

Fig. 2

Block I	Block II	Block III
2 6 1	4 3 5	1 5 4
4 5 3	2 1 6	3 6 2
Block IV	Block V	Block VI
6 1 4	5 6 3	4 2 1
5 2 3	2 4 1	6 3 5
Block VII	Block VIII	Block IX
6 4 3	1 5 3	5 6 2
2 1 5	4 6 2	1 4 3
Block X	Block XI	Block XII
3 2 6	1 4 5	6 2 3
5 1 4	2 6 3	4 5 1

Prior to planting, the pots were thoroughly watered. Glass plates were placed over the tops of the pots to conserve the moisture while a small gap was left for aeration. Four waterings were given over a period of two days to promote maximum absorption.

On April 16, 1964, one pea seed (*Pisum sativum*, var. Alaska) was planted in the center of each pot at a depth of one inch. Common garden pea seeds were chosen because of their rapid growth which takes place at a single growing point; because there is no branching; because successive nodes develop as stems elongate; and because the nodes are easily recognized.

Immediately following the planting, the recording of data began. For the temperature, a recording thermometer (thermograph) was used to register the basic data concerning the heat units available to the point of emergence.

On April 22, six days after planting, first emergence occurred. The pattern of emergence for this day, and the following day, April 23, was as follows:

Fig. 3. PATTERN OF FIRST TWO DAY'S EMERGENCE.
(Numerals indicate media in which emergence occurred)

	Block I	Block II	Block III
April 22	• 6 1 • 5 •	• • 5 • 1 6	• • •
April 23	• • • • • 3	• 3 • 2 • 6	1 5 • • 6 2
	Block IV	Block V	Block VI
April 22	• • 4 5 • •	5 • • • • •	• • 1 • • 5
April 23	• • •	• • • • 1	• • •
	Block VII	Block VIII	Block IX
April 22	6 • 3 • 1 5	• • • • 6 •	5 6 • 1 • •
April 23	• 4 • 2 • •	• • 3 • • •	• • •
	Block X	Block XI	Block XII
April 22	• • 6 5 1 •	• • 5 • 6 •	6 • • • • •
April 23	• • • • • 4	1 4 • • • •	• • 3 • • 1

Fig. 4 SUMMARY OF FIRST TWO DAY'S EMERGENCE:

1—first day. 2—second day

Total number of plants emerging:	1	2	3	4	5	6	7	8	9	10	11	12
Peat	1	1	1	1	1	1	2	2	2	2		
Perlite	2	2	2									
Sawdust	1	2	2	2	2	2						
Sand	1	2	2	2								
Vermiculite	1	1	1	1	1	1	1	1	1	1	2	
"Mixture"	1	1	1	1	1	1	1	1	1	1	2	

Emergence was not recorded after the first two days because one of the goals of the study had been established by that time, namely "the least amount of time required for germination."

From planting to first emergence on April 22, the thermograph showed that the seeds had been subjected to 4291.3 degree hours of heat. In the following 24 hours, 708 degree hours were added. The total accumulation of degree hours at the end of the second day's emergence, therefore, was 4999.3.

For the germination phase of Nicholson's experiment, the indications were that peat, vermiculite, and "mixture," in the order given, were the best media for fast germination.

Since all media was exposed to the same degree of moisture, oxygen, and heat — the three essentials for germination — Nicholson posed the question, "Why did peat, vermiculite, and the "mixture" produce germination in the shortest time?" The answer appears to lie in a common denominator of these three compared with the other media — their dark color. Since dark colors are known to absorb heat, he rates the temperature absorption quality of a medium as an important ingredient for fast germination. There was also an indication that the "low emergent" media had a greater degree of aeration than the darker colored media which affected both their water and heat retention qualities.

After the plants had emerged, they were measured every other day at approximately the same time. When they had grown to three inches, they were tied to bamboo stakes to provide support for accurate measurement. Growth was measured from the top of the pot to the tip of the plant. The measuring device was made of a yardstick and a piece of wood, 1'x2"x10", assembled in the form of a "T" square. The outer edge of the cross member of the device was positioned on top of the pot with the longer yardstick member running parallel to the plant.

While the measurements taken every other day might have served as the basis for some conclusions concerning the rate of growth, only the measurements of the last day of growth were used to determine the media contributing the most to growth. These data were recorded in a form similar to that used for emergence. For example, on May 9, the last day on which measurements were taken, the media in Block I in which seeds had germin-

ated produced growth which was recorded in this fashion:

Fig. 5

Bold figures—type of medium

Italics—growth in inches

Block 1

2	6	1
<i>x</i>	12	9.5
4	5	3
<i>x</i>	5	8.25

x—no germination. (In the course of the investigation, a total of nine seeds, or 12.4% failed to germinate.)

The number of inches of growth on each plant grown in a given medium were added together and then divided by the number of plants measured to obtain an average plant growth for that medium. This was done for each of the six media used in the experiment with the following results:

Fig. 6 AVERAGE PLANT GROWTH IN SIX DIFFERENT MEDIA

Identity Number	Medium	Average growth (inches)
6	"Mixture"	9.25
1	. Peat	8.72
4	Sand	7.71
3.	Sawdust	7.52
2	Perlite	5.85
5	Vermiculite	4.27

Nicholson observed the following about each of the media insofar as its qualities did or did not contribute to plant growth.

"Mixture" (No. 6) produced the most growth. This was due to the fact that the medium contained some of the nutrients essential for the growth of peas. In addition, the "mixture" was well-aerated, normally has high-water retention capacity, and, because of its dark color, facilitates heat absorption. All plants appeared healthy. The leaves were exceptionally green compared with those of the plants grown in the vermiculite and perlite.

Peat (No. 1) was second in the contribution to growth. It, like "mixture", holds water well, is well aerated, supplies one of the nutrients (nitrogen) in minute quantities, and, because of its dark color, facilitates heat absorption.

Sand (4), Sawdust (3), Perlite (2), and vermiculite (5) all have some of the characteristics of a good growth-producing medium, such as good water-holding quality, and are well aerated. Perlite and vermiculite, however, are sterile; they do not contain nutrients. Sterility is a desirable quality in a situation in which a propagator needs a disease and weed-free medium. For healthy growth beyond germination, however, he obviously would have to add nutrients. The necessity for this was clearly indicated in the case of the plants grown in perlite where noticeable chlorosis, or yellowing, appeared in the lower leaves.

One final measurement disclosed a positive correlation between top and root growth: the greater the growth above ground, the more developed the root system.

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Next Day



How Could He?

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